REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed January 8, 2007. The Office Action has tentatively rejected all claims 1-12 under 35 U.S.C. § 102(e) as allegedly anticipated by Arvelo (US 7,082,107). Applicant respectfully requests reconsideration and withdrawal of the rejections for at least the reasons that follow.

Fundamental distinction of Claimed Embodiments over Arvelo

There is at least one fundamental difference between each of the claimed embodiments and the teachings of the cited Arvelo patent; namely, the claimed embodiments require separately transmitting a plurality of packets at two different output power levels, and determining (for each output power) an error rate. Then, a desired output power is identified, based on a comparison between the determined first and second error rates. That is, the claimed embodiments measure packet error by making two separate measurements, at two different power levels. Then, the two determined error rates are compared to identify desired a power level for transmissions.

In contrast, Arvelo teaches using short and long observation windows to measure packet error rate, and adjusting power level to deliver a desired packet error rate. Significantly, however, Arvelo does not disclose changing the power level of the transmitted packets in the short and long window, and comparing measured error rate differences to identify a desired power level for transmissions. For at least this fundamental reason, the Application of Arvelo to the present claims is misplaced.

Discussion of Specific Rejections

Having set forth a fundamental distinction above, reference will now be directed to the specific claims. Independent claim 1 recites:

> 1. A method for output power dithering for improved transmitter performance, the method comprising:
> transmitting a plurality of packets at a first output power;
> determining a first error rate associated with the transmission of the plurality of packets at the first output power;
> **transmitting the plurality of packets at at least one second output power different from the first output power;**
> determining at least one second error rate associated with the transmission at the at least one second output power; and
> **identifying a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.**

(*Emphasis added*). Claim 1 patently defines over Arvelo for at least the reason that Arvelo fails to disclose the features emphasized above.

The Office Action cites col. 3, lines 12-33, col. 3 line 63-col. 4, line 65, col. 5 lines 21-61, and col. 10, lines 36-46 for teaching BOTH of these elements. That is, the Office Action cited these portions of Arvelo for teaching the second transmitting step, and then the Office Action repeated these same citations as teaching the identifying step. In fact, the Office Action repeated these same citations as allegedly teaching both determining steps. It would have been helpful if the Office Action had pointed to more specific teachings of Arvelo for each separate claim element, rather than merely relatively global teaching, as the rejection set forth makes is somewhat difficult for the undersigned to fully appreciate how the Examiner is interpreting the teachings of Arvelo.

Notwithstanding, what is clear from these collective cited portions of Arvelo is that there is no teaching of a retransmission of packets at a second power level, and a comparison of separate error rates from the first and second transmissions in order to identify a desired output power. Instead, what Arvelo teaches is an open loop transmission of short and long observation windows. In this regard, the cited portion (relied on by the Office Action) of col. 3, line 63~col. 4, line 65 states:

> FIG. 1 demonstrates one embodiment of the present invention. In block 110, counters and registers are reset. In block 120, the process counts the number of packet errors in the short observation window and compares that number of packets to a first threshold. If the number of

packet errors is greater than or equal to the first threshold, the packet error rate is higher than desired, indicating that the transmission power level is too low. In which case, the process proceeds to block 170 to increase the power. From block 170, the process returns to block 110 to reset and start over again.
…
Any number of mathematical approaches can be used to determine the size of the observation windows and the three threshold values to get a statistical estimation of whether the current packet error rate is higher or lower than a target given packet error rate. For instance, if the target average packet error rate is 0.01, one solution is a short window of 35 packets, a long window of 135 packets, a first threshold of 2 packet errors, a second threshold of 0 packet errors, and a third threshold of 4 packet errors. In which case, if two or more packet errors are encountered in any contiguous 35 packets, the power level will be increase no errors are encountered in any contiguous 135 packets, the power level will be decreased. And, in the illustrated embodiment of FIG. 1, if four or more packet errors are encountered in any contiguous 135 packets, the power level is again increased.

Significantly, there is no teaching in Arvelo of re-transmitting the same packets at two different power levels and determining two different error rates for the two transmissions, and then comparing the two determined error rates to identify a desired power.

As reflected above, claim 1 defines two separate "transmitting" steps. The first defines "transmitting a plurality of packets at a first output power." The second defines "transmitting the plurality of packets at at least one second output power different from the first output power." This second transmitting step can ONLY be construed properly as a retransmission of the first transmitted packets, because it references "the" plurality of packets. In addition, this second transmitting step requires that this retransmission occur at a "second output power different from the first output power." Simply stated, there is not such comparable teaching in Arvelo. For at least this reason, the rejection of claim 1 is misplaced and should be withdrawn.

Further still, claim 1 defines two separate "determining" steps, which call for the determining of first and second error rates: wherein the first error rate is the error rate determined from packets transmitted at a first power level, and the second error rate is

the error rate determined from the packets when retransmitted at a second power level

(which is different from the first power level). Finally, these two error rates are compared

in order to identify a desired power level for transmissions. Arvelo does not teach these

features.

For at least the foregoing reasons, the rejection of claim 1 is misplaced, and the

rejection should be withdrawn.

With regard to claim 2, claim 2 recites:

> 2. A method for output power dithering for improved transmitter
> performance, the method comprising:
> transmitting a plurality of packets at a first output power;
> determining a first error rate associated with the transmission of
> the plurality of packets at the first output power;
> **transmitting the plurality of packets at a second output power
> if the first error rate is greater than a predetermined error rate value,
> wherein the second output power is different from the first output
> power;**
> determining a second error rate associated with the transmission
> at the second output power; and
> **adjusting the second output power if the second error rate is
> lower than the first error rate.**

(*Emphasis added.*) Independent claim 2 patently defines over Arvelo for at least the

reason that Arvelo fails to disclose at least the features emphasized above.

In essence, claim 2 defines over Arvelo for the same reasons as claim 1. In

rejecting claim 2, the Office Action merely quoted the entire claim, and then cited the

same portions of Arvelo that were cited to reject features of claim 1 (i.e., col. 3, lines 12-

33, col. 3 line 63-col. 4, line 65, col. 5 lines 21-61, and col. 10, lines 36-46). Again, the

Office Action failed to apply specific teachings of Arvelo to each separate claim element.

Nonetheless, for reasons similar to those discussed above in connection with claim 1,

claim 2 defines over the teachings of Arvelo.

Specifically, claim to requires two separate transmission steps (the second step

occurring if the first error rate is greater than a predetermined error rate), with the

second transmission occurring at an output power that is different than the first

transmission. Also the second output power is adjusted if the second error rate is

determined to be lower than the first error rate. Simply stated, there is no such

comparable teaching in Arvelo. For at least these reasons, the rejection of claim 2

should be withdrawn.

As claims 3-9 depend from claim 2, the rejections of these claims should be

withdrawn at least by virtue of their dependency from claim 2. In addition, claim 4 recites

the additional steps:

> 4. The method according to claim 2 further comprising:
> transmitting the plurality of packets at a third output power if the
> second error rate is not lower than the first error rate, wherein the third
> output power is different from the first output power and the second
> output power;
> ***determining a third error rate associated with the***
> ***transmission at the third output power; and***
> ***adjusting the third output power if the third error rate is***
> ***lower than the first error rate.***

(*Emphasis added.*) Claim 4 patently defines over the cited art for at least the reason that

Arvelo fails to disclose the features emphasized above.

In rejecting claim 4, the Office Action cited the same teachings of Arvelo that

were cited to reject claim 1. Applicant fails to understand this application of Arvelo. With

regard, to the rejection of claim 1, Applicant noted why the short and long windows of

Arvelo were not the same as the first and second transmissions of claim 1 (e.g., the

second transmission being a retransmission). However, with respect to claim 4, the

application of Arvelo is even more misplaced. That is, even assuming that the short

window of Arvelo corresponds to the first transmission of claim 1, and the long window

corresponds to the second transmission of claim 1, there simply is no further teaching in

Arvelo that would correspond to the claimed third transmission of claim 4 (much less the

additional step of adjusting the "third" output power. For at least this separate and

distinct reason, the rejection of claim 4 is misplaced and should be withdrawn.

Claims 10, 11, and 12 are the other independent claims in this application, and

these claims respectively recite:

> 10. A system for output power dithering for improved transmitter performance, the system comprising:
> a transmitter that transmits a plurality of packets at a first output power; and
> a processor that
> determines a first error rate associated with the transmission of the plurality of packets at the first output power;
> *causes the transmitter to transmit the plurality of packets at at least one second output power;*
> determines at least one second error rate associated with the transmission at the at least one second output power; and
> *identifies a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.*

> 11. A system for output power dithering for improved transmitter performance, the system comprising:
> means for transmitting a plurality of packets at a first output power;
> means for determining a first error rate associated with the transmission of the plurality of packets at the first output power;
> *means for transmitting the plurality of packets at at least one second output power different from the first output power;*
> means for determining at least one second error rate associated with the transmission at the at least one second output power; and
> *means for identifying a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.*

> 12. A computer readable medium having code for causing a processor to perform output power dithering for improved transmitter performance, the computer readable medium comprising:
> code adapted to transmit a plurality of packets at a first output power;
> code adapted to determine a first error rate associated with the transmission of the plurality of packets at the first output power;
> *code adapted to transmit the plurality of packets at at least one second output power different from the first output power;*
> code adapted to determine at least one second error rate associated with the transmission at the at least one second output power; and
> *code adapted to identify a desired output power based at least in part on a comparison between the first error rate and the at least one second error rate.*

(*Emphasis added*). Claims 10-12 patently define over Arvelo for at least the reasons that Arvelo fails to disclose the features emphasized above.

As is readily observed, the elements of these claims loosely correspond to the elements of claim 1. Indeed, the Office Action cited the same portions of Arvelo in rejecting these claims as it did in rejecting claim 1. Therefore, these claims define over Arvelo for the same reasons articulated above in connection with claim 1.

CONCLUSION

Applicants respectfully submit that Applicants' pending claims are in condition for allowance. Any other statements in the Office Action that are not explicitly addressed herein are not admitted by Applicant. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, and similarly interpreted statements, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions.

Favorable reconsideration and allowance of the present application and all

pending claims are hereby courteously requested. If, in the opinion of the Examiner, a

telephonic conference would expedite the examination of this matter, the Examiner is

invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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